

WHAT IS CLAIMED IS:

1. A composition comprising at least one thermoplastic matrix and particles based on zirconium, titanium, cerium and/or silicon phosphate, characterized in that at least 50% by number of the particles are in the form of nanometric lamellar compounds exhibiting an aspect ratio of less than or equal to 100.
2. The composition as claimed in claim 1, characterized in that the particles of nanometric lamellar compounds exhibit an aspect ratio of less than or equal to 50.
3. The composition as claimed in either one of claims 1 and 2, characterized in that the particles of nanometric lamellar compounds exhibit an aspect ratio of less than or equal to 10.
4. The composition as claimed in any one of claims 1 to 3, characterized in that at least 80% by number of the particles are in the form of nanometric lamellar compounds exhibiting an aspect ratio of less than or equal to 100.
5. The composition as claimed in any one of claims 1 to 4, characterized in that 100% by number of the particles are in the form of nanometric lamellar compounds exhibiting an aspect ratio of less than or equal to 100.
6. The composition as claimed in any one of claims 1 to 5, characterized in that it comprises from 0.01 to 30% by weight of particles with respect to the total weight of the composition.
7. The composition as claimed in any one of claims 1

to 6, characterized in that it comprises from 0.1 to 5% by weight of particles with respect to the total weight of the composition.

5 8. The composition as claimed in any one of claims 1 to 7, characterized in that the nanometric lamellar compound is based on zirconium phosphate.

9. The composition as claimed in any one of claims 1
10 to 8, characterized in that it additionally comprises particles in the form of nanometric lamellar compounds comprising an intercalation and/or exfoliation agent.

10. The composition as claimed in any one of claims 1
15 to 9, characterized in that the thermoplastic matrix is composed of at least one thermoplastic polymer chosen from the group consisting of: polyamides, polyesters, polyolefins and poly(arylene oxide)s, and the blends and copolymers based on these (co)polymers.

20 11. The composition as claimed in any one of claims 1 to 10, characterized in that the thermoplastic matrix is a polyamide chosen from the group consisting of: polyamides 6, polyamides 66, polyamides 11, polyamides
25 12 and poly(meta-xylylenediamine)s, and the blends and copolymers based on these polyamides.

12. The composition as claimed in any one of claims 1
30 to 11, characterized in that the thermoplastic matrix is a polyolefin chosen from the group consisting of: polyethylene, polypropylene, polyisobutylene and polymethylpentene, and their blends and/or copolymers.

13. A process for the manufacture of a composition as
35 claimed in any one of claims 1 to 12, consisting in:
- mixing at least particles based on zirconium, titanium, cerium and/or silicon phosphate in the form of nanometric lamellar compounds with monomers and/or oligomers of a thermoplastic matrix, before or during

the polymerization stage, and
- polymerizing the thermoplastic matrix.

14. A process for the manufacture of a composition as
5 claimed in any one of claims 1 to 12, consisting in
mixing at least particles based on zirconium, titanium,
cerium and/or silicon phosphate in the form of
nanometric lamellar compounds and a thermoplastic
matrix.

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15. A process for the manufacture of a composition as
claimed in any one of claims 1 to 12, consisting in
mixing at least one thermoplastic matrix and one
composition comprising at least particles based on
15 zirconium, titanium, cerium and/or silicon phosphate in
the form of nanometric lamellar compounds and a
thermoplastic matrix.

16. The process as claimed in any one of claims 13 to
20 15, characterized in that the particles based on
zirconium, titanium, cerium and/or silicon phosphate in
the form of nanometric lamellar compounds exhibit an
aspect ratio of less than or equal to 100.

17. The process as claimed in any one of claims 13 to
25 16, characterized in that the particles based on
zirconium, titanium, cerium and/or silicon phosphate in
the form of nanometric lamellar compounds are
intercalated and/or nonintercalated.

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18. A process for the manufacture of an article,
consisting in forming a composition obtained as claimed
in any one of claims 1 to 12 with an extrusion, molding
or injection molding device.

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19. An article, obtained by forming a composition as
claimed in any one of claims 1 to 12.

20. The article as claimed in claim 19, characterized

in that it is chosen from the group consisting of a film, a sheet, a pipe, a hollow or solid body, a bottle, a conduit and a tank.